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The Stress-Buffering Role of Social Report and Self-Efficiency Among First-Year Graduate Students

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THE STRESS-BUFFERING ROLE OF SOCIAL SUPPORT AND SELF-EFFICACY AMONG FIRST-YEAR GRADUATE STUDENTS

BY

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INTRODUCTION

Recent research has increasingly focused upon the role of social support in the relationship between life stress and physical/psychological symptomatology. In addition to social support, a few investigators have examined other variables such as "internal locus of control" (Johnson & Sarason, 1978; Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Lefcourt, Miller, Ware, & Sherk, 1981) and personal competence (Husaini, Neff, Newbrough, & Moore, 1982) as possible moderators of life stress. These types of investigations have been conducted in a variety of contexts, yet, few have been carried out in a graduate school setting.

Entering graduate school, for most students, marks the beginning of many life changes, including changes in work, finances, living conditions, school, and social relationships. These life events and subsequent ramifications can lead to a considerable degree of stress. Valdez (1982), in a study conducted with first-year doctoral students, found that 8% of the students under investigation had experienced a moderate or major crisis during their first semester of graduate school. In addition, over one-half fell into the high-risk category for illness based on scores from the

Holmes and Rahe Social Readjustment Rating Scale (Valdez, 1982).

Evidence of an association between recent stressful life events and a variety of psychological and physical disorders has been reported in several studies. For example, life events have been linked to depression (e.g., Benjaminsen, 1981; Brown & Harris, 1978; Paykel, Myers, Dienelt, Klerman, Lindenthal, & Pepper, 1969), neurotic impairment (Tennant & Andrews, 1978), coronary heart disease (Hinkle, 1974; Theorell, 1974), cancer (Jacobs & Charles, 1980), and a host of other physical and psychological problems (e.g., Dohrenwend & Dohrenwend, 1978). Although a relationship has been consistently established between life events and measures of psychological and physiological symptomatology, these correlations have been relatively low, suggesting that life events account for only a small percentage of the variance in illness.

A possible explanation for the low correlation between life stress and subsequent symptomatology may be due to the moderating effects of other variables. For example, in a study conducted with first-year graduate students, social support emerged as a major mediating variable in students' assessment of the stressfulness of events experienced during their first six months of graduate work, and in the number of emotional and physical problems experienced during that interval (Goplerud, 1980). Many other researchers have

focused upon the role that social support plays in moderating the life-stress/health relationship (Cohen & Hoberman, 1983; Crandall, 1984; Husaini & Neff, 1982). The moderating effect of social support most commonly referred to in these studies can best be described by the "buffering hypothesis." Essentially, this model proposes that social support serves to modify the effect of stress, by cushioning the individual from some of the physiological and psychological consequences of exposure to the stressful situation. The current investigation was designed to examine the stress-buffering role of social support and self-efficacy among first-year graduate students. In addition, variations in self-efficacy as a joint function of social support and cognitive appraisal of (that) support was examined.

SOCIAL SUPPORT

In general, social support may be characterized as an external resource and has previously been conceptualized as such by Husaini, et al., (1982) in related research on the stress-buffering role of social support. As an external resource, social support serves as a means to facilitate an individual's aquisition of adaptive behaviors when faced with a stressful situation. Support systems are said to provide emotional support, assistance with task performance, guidance, and material support to facilitate coping (Caplan, 1976). In addition, social support may also serve a therapeutic function. Dickoff and Lakin (1963), in a study conducted with 28 members of two outpatient therapy groups, found that social support was experienced by the patients as the chief therapeutic mode. From the patient's point of view, group cohesiveness was seen as not only necessary for the perpetuation of the group but in itself of great therapeutic value. For the purpose of this investigation, social support will be defined as that which includes tangible forms of assistance such as the provision of goods and services, as well as intangible forms such as guidance and expressions of esteem.

Feedback as a Function of Social Support

Support from others may be a potential source of feedback. Feedback is particularly relevent to graduate students in that it provides information concerning an individual's performance that serves as a valuable aid in helping to manage problem situations more effectively. Potential sources of feedback arise not only from an individual's peer group, but additionally, and perhaps more importantly from faculty-student interactions. Relative to this assumption, Goplerud (1980) found that the more students interacted with faculty outside of classes during the first week of graduate school, the less likely they were to report intense or prolonged life disruptions during the first six months of study. In addition, frequent and satisfying emotional and/or intellectual relations were linked to a reduced likelihood of experiencing health or emotional problems during this high-risk period.

Ficklin, Hazelwood, Carter, and Shellhamer (1983) evaluated students' perceptions of a faculty/student support program for first-year medical students at the Indiana University School of Medicine one year after its inception. The program was initiated to provide advice and support in areas of documented stress for freshman students such as anxieties about starting medical school. One hundred and fifty-one students were involved in the program which was divided into 10 groups, with 15 students and 2 faculty

members assigned to each. Ficklin et al.'s (1983) evaluation consisted of a survey which was designed to discover personal needs of first-year medical students and the level of helpfulness of the small-group program in meeting these needs. The results of their evaluation indicated that, of the students' designated needs, the program was most facilitative in (a) helping students to become better acquainted with peers; (b) becoming close to some classmates; and (c) helping students to deal with the anxieties of starting medical school.

Mechanic (1962) studied doctoral students preparing for general examinations for a three-month period prior to their administration. Information for this study was derived primarily from interviews and informal discussions with students. Also, on several occasions, sociometric and other quantitative data were collected. Findings revealed that students undergoing a high-stress period found it comforting to communicate with faculty members and that such communication was often used as a means to defend against anxiety.

Social Support - Adapting to Stress

Individuals experiencing high degrees of stress may actively deal with the situation (coping) and/or deal with their feelings about the situation (defense) as a means of adaptation (Mechanic, 1962). In applying these principles of adaptation to students experiencing stress, an individual

adjusting to the demands of graduate school may find it necessary to develop new strategies for study, time-management, approaching novel tasks, and/or new ways of viewing/perceiving his or her situation.

The peer group assumes a vital function in facilitating the acquisition of coping behaviors. For example, Hall (1969) states that "when a student is confronted with seemingly impossible faculty demands, the peer culture assists in diagnosing areas of high-priority (where meeting faculty demands is essential) and low-priority areas (where students can essentially ignore faculty demands)" (p. 119). Peer interaction also provides the individual with information regarding means to improving performance, which generally occurs through the sharing of information on readings, problem solving techniques, recommendations for study, etc.

In addition to facilitating the acquisition of coping behaviors, peer interaction may serve as a means for defense against anxiety. For example, Mechanic (1962) found that students, prior to doctoral examinations, repeatedly sought comforting information that was consistent with the attitudes the students held about the examinations. The most frequent type of comforting cognition reported was that which was based on favorable social comparison, i.e., "I am as bright and knowledgeable as other students who have passed these examinations." Mechanic (1962) also noted

other types of interpersonal defense in which students engaged. Examples included humor, hostility, and being a member of a select group. It appeared that those students who belonged to a select group or clique developed a sense of cohesion which increased feelings of security as noted by statements of this nature, ". . . I know I have felt a number of times that I am part of a select group that is considered to be an exceptionally good group, so essentially there shouldn't be too much to worry about."

Mechanic's (1962) study suggested that peer interaction, in the department studied, increased rather than decreased anxiety. An explanation for this may be found in the type of interaction in which they engaged. It appears that if peer interaction is perceived as supportive, the student is likely to move toward an emotional state that is functional. On the other hand, if peer interaction is perceived as competitive, the individual will be likely to move toward a state of increased anxiety which is dysfunctional and subsequent performance levels may be impaired.

OTHER STRESS-BUFFERING VARIABLES

While the majority of current research has focused on social support as a buffer of the life-stress/health relationship, a few investigators have examined other variables (or internal resources) as possible moderators of life stress. For example, Husaini et al., (1982) examined the stress-buffering role of social support and personal competence among rural married individuals. It was expected that individuals lacking both internal (personal competence) resources and external (social support) resources would report more depressive symptoms as a result of life stress than individuals possessing these resources. Results from this investigation generally supported both independent and buffering effects of internal and external resources upon the life event/symptom relationship. However, it was not clear which of the two resources had a greater moderating effect. When looking at the data from the total sample, competence appeared to have a more consistent buffering effect than social support. Yet, when analysis by gender was considered, the buffering effect of competence was marginally significant in both groups and evidence of a buffering effect of support was found primarily among females. Although the reasons for the differential buffering effects of social support by gender are not clear,

the findings of the overall inconsistency of social support as a stress buffer may have, in part, resulted from the lack of an adequate measurement device. The instrument used to assess social support appeared to measure both the "availability of support" and "help-seeking," which varied according to item. An example of this variation between items on the social support measure can be seen in the difference between items assessing marital satisfaction and friendships. Marital satisfaction was assessed on a 5-point Likert-type scale ranging from very happy to very unhappy. Support from friends was measured by the following question: "How often do you call on your close friends for help when you have a real problem?" All of the time to never?

Further examination of the data from the previous study revealed that there was at least some evidence which suggested that internal resources may have a greater moderating effect than social support. This is postulated mainly because results indicated that where competence was higher, social support had little buffering effect. In addition, it was noted that the event-symptom relationship was stronger for lower competence/higher support individuals than for lower competence/lower support individuals on several measures within the total sample. A possible explanation for these findings posited by the authors, again, indicated that it may be necessary to make a distinction between availability of support and actual

help-seeking behavior. That is, the presence of social ties may be generally supportive and may buffer the effects of stressors, particularly if one does not need to rely on them. However, where one's internal resources are inadequate to buffer the effects of stressors, having to rely upon social support could have potentially deleterious consequences, in that higher support to a less competent individual may pose a serious ego threat connotating dependence and failure of self-reliance.

As further support for this explanation, Cohen and McKay (in press) state that "if one assumes that the buffering qualities of social support are cognitively mediated, e.g., support operates by affecting one's interpretation of the stressor, knowledge of coping strategies or self-concept" (p. 100). In keeping within a cognitive framework, Cohen and Hoberman (1983) conducted research with freshman college students utilizing both social support and perceived availability of support scales. The two measures of social support in this study were the Inventory of Socially Supportive Behaviors (ISSB) assessing frequency of support received during the past month, and the Interpersonal Support Evaluation List (ISEL), assessing perceived availability of four separate functions of social support. The items which comprise the ISEL fall into four 12-item subscales. The "tangible" subscale is intended to measure perceived availability of material aid; the

"appraisal" subscale, the perceived availability of someone to talk to about one's problems; the "self-esteem" subscale, the perceived availability of a positive comparison when comparing oneself to others; and the "belonging" subscale, the perceived availability of people one can do things with. In addition to the social support measures, the College Student Life Event Scale (CSLES), the Center for Epidemiologic Studies Depression Scale (CES-D), and the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS) were also administered. Subjects were also asked to indicate what types of needs were elicited by the life events that they checked. The purpose of this investigation was to determine the relative roles of each of the support functions (i.e., appraisal support, self-esteem support, belonging support, and tangible support) in the buffering of life stress.

Separate regressions were calculated to determine whether each subscale of the ISEL operated as a buffer. Results indicated that for depressive symptoms, there were significant interactions in the case of the appraisal, self-esteem, and belonging subscales. In all of these cases the data were consistent with the buffering hypothesis. For physical symptoms, there were significant interactions in the case of the tangible, belonging, and self-esteem scales. These data, however, generally indicated crossover

interactions, with support aiding those with high levels of stress but hurting those with low levels.

Another set of regression analyses we calculated in order to determine which of the four types of social support measured by the ISEL made unique contributions to the buffering interaction. Results indicated that, in the case of depression, two of the interactions accounted for significant independent variance; the interaction of life stress and self-esteem and that of life stress and appraisal. The two remaining interactions did not make unique contributions to the explanation of depressive symptomatology variance. Only the interaction between number of negative events and self-esteem made a unique contribution to the explanation of physical symptomatology variance.

Since only appraisal and self-esteem support contributed independently as buffers of cummulative life stress, an attempt was made by the authors to determine if these resources matched the needs the respondents reported were elicited by their events. Results demonstrated that only self-esteem made a significant unique contribution to explaining life variance.

A set of regression analyses was also calculated to test the buffering capabilities of the frequency of past support. In these analyses, the perceived availability of support measure (ISEL) was replaced with the measure of

frequency of past support measure (ISSB). A significant interaction between number of negative life events and the frequency of past support was found in the case of depressive symptomatology (Cohen & Hoberman, 1983). The form of the interaction was not, however, consistent with the buffering hypothesis but instead reflected a negative relationship between support and depressive symptomatology under low but not under high stress. The interaction was not consistent in the case of physical symptoms.

The results from this investigation may have important implications for future research in the area of social support. Cohen and Hoberman (1983) believe that the lack of findings for frequency of past support as a stress buffer are due to the scales construction. They state that since the ISSB taps both recent need for support as well as its availability, it may not provide an appropriate measure of social support (Cohen & Hoberman, 1983). This may indeed be the case, however, it would seem that if the value of social support is in how it is perceived by the individual (i.e., it is facilitative in meeting the needs elicited by life events), than a scale measuring social support without accompanying information about how said support affects the individual would be incomplete.

The fact that the self-esteem subscale of the ISEL did prove to have been a potent stress buffer may be interpreted as follows: First of all, it may be that social support

functions as a buffer of stress only when it serves to meet the coping requirements elicited by the specific stressor(s) experienced by the individual. Under these conditions it would appear that self-esteem resources are central in the buffering of both stress induced depressive and physical symptomatology. It should also be noted that the self-esteem subscale in the ISEL loads heavily on items that tap positive social comparison processes (Cohen & Hoberman, 1983). The implication here being that the self-esteem subscale may be a measure of a component of self-esteem as well as perceived availability of esteem support. This being the case, it is likely that social support serves to increase internal resources such as self-esteem and feelings of mastery which in turn function as effective buffers of life stress. However, it is also possible that these two concepts are inseparable, since self-esteem is, to a large degree, determined by our perceptions of how we are viewed by others. Therefore, further research demonstrating that internal resources such as feelings of mastery are separate from, or a function of, social support as well as perception of said support seems indicated before drawing concrete conclusions.

In addition to social support and personal competence, several investigators have found that "internal locus of control" is an important moderator of the effects of life stress on both physical health and psychological symptoms

(Johnson & Sarason, 1978; Kobasa, 1979; Kobasa, Maddi, & Kahn, 1982; Lefcourt, Miller, Ware, Sherk, 1981). Lefcourt, Martin, and Saleh (1984) conducted three (consecutive) such studies with first-year psychology students as subjects. As a measure of locus of control, they utilized two scales from the Personality Research Form (PRF), one that focuses on individual's tendencies to immerse themselves in social interactions (need affiliation) and one that focuses on the desire to function autonomously (need autonomy). The authors hypothesized that the loci of control for affiliation and for achievement and both the affiliation and the autonomy scales of the PRF would prove to be salient in producing the moderator effects of social supports. More specifically, persons who are internal for achievement, low in the need for affiliation, and high in the need for autonomy would commonly exhibit moderator effects from social support than would their opposites.

Results from Lefcourt et al.'s, (1984) investigation are as follows: Subjects who seemed to be less generally sociable or more autonomous appeared to benefit the most from the presence of social support. Relations between negative life events and mood disturbance were substantially reduced by social support for those who were internal for affiliation, internal for achievement, less generally affiliative, and more highly autonomous. In no instance did their opposites seem to receive the same degree of benefit

from social support. The findings from this investigation, again, seem to indicate that where internal resources are inadequate to buffer the individual from negative events, social support is not facilitative. It seems that internal resources may be substantially more potent in buffering the effects of life stress than external resource such as social support. These findings appear to be consistent with those of other researchers who have examined the potency of internal resources in conjunction with social support. At this point however, it is worth noting the discrepancies between the constructs discussed. Although Rotter's (1966) locus of control construct is similar in concept to that of personal competence mentioned previously, a distinction can be made in that personal competence focuses more upon the sense of mastery than upon "generalized expectancies" regarding internal versus external control of reinforcement. For example, in illustrating the difference between these two constructs, it can be said that personal competence refers to an individual's belief that he/she can pass a final exam, whereas locus of control constitutes the outcome expectancies of faculty recognition, a passing grade, and self-satisfaction.

SELF-EFFICACY

Self-efficacy refers to an individual's belief or expectation that he or she can master a situation and bring about desired outcomes by personal efforts (Bandura, 1978). Not only can perceived self-efficacy have directive influence on activities and choice of settings, but, through expectations of eventual success, it can effect coping efforts once they are initiated. Efficacy expectations determine how much effort an individual will expend and how long he/she will persist in the face of obstacles and aversive experiences (Bandura, 1978). Thus, the stronger the perceived self-efficacy, the more active the efforts. This model proposed by Bandura fits well with the previously mentioned concept of personal competence in that there is an emphasis on expectation and active effort in meeting with a potentially threatening situation. According to Bandura's self-efficacy model, those who persist in subjectively threatening activities will gain corrective experiences that reinforce their sense of efficacy, thereby eventually eliminating their defensive behavior. Those who cease their coping efforts prematurely will retain their self-debilitating expectations, fears, and concurrent

anxiety. In discussing the self-efficacy model Bandura (1983) states:

> Self-efficacy theory postulates an interactive, though asymetric, relation between self-efficacy and fear arousal, with self-judged efficacy exercising the greatest impact. People who judge themselves to be inefficacious in managing potential threats approach such situations anxiously, and the experience of disruptive arousal, in turn, lowers their sense of efficacy that they will be able to perform skillfully. By considering the level, strength, and generality of self-percepts of efficacy, one can predict not only which threatening tasks subjects will perform but also how much anticipatory and performance fear they will experience in the process (p. 466).

The relation between self-percepts of coping efficacy and fear has been tested in research with severe phobics. In one such study Bandura and Adams (1977) analyzed the intensity of fear as a function of the strength of perceived self-efficacy in coping with different threats. The findings demonstrated that phobics experienced high anticipatory and performance fear on tasks on which they perceived themselves to be inefficacious, but as the strength of their self-percepts of efficacy increased, their fear declined.

The generality of perceived inefficacy fear relation was further confirmed in research using physiological indexes of fear (Bandura, Reese, & Adams, 1982). Results indicated that phobics displayed no visceral arousal while performing coping tasks they regarded with utmost self-efficaciousness. However, on tasks about which they doubted their coping efficacy, their heart rate accelerated

and their blood pressure rose during anticipation and performance of the activities. After self-percepts of coping efficacy were strengthened to maximal levels, these same activities were executed without any visceral agitation.

In further explicating the self-efficacy model, Bandura (1977) proposes that there are a number of identified factors influencing the cognitive processing of efficacy information arising from enactive, vicarious, exhortive, and emotive sources which correspond to: (1) performance accomplishments; (2) vicarious experience; (3) verbal persuasion; and (4) physiological states, respectively. With regard to performance accomplishments, Bandura (1977) states that not only do efficacy expectations effect performance, but personal mastery raises efficacy expectations. Performance accomplishments also serve to extinguish emotional arousal, thus authenticating self-efficacy through enactive and arousal sources of information.

The second source of efficacy information proposed by Bandura (1977) is vicarious experience which can be obtained through live or symbolic modeling. That is, seeing or imagining others perform threatening activities without adverse consequences can generate peoples' expectations that they, too, will improve if they intensify and persist in their efforts. In applying this aspect of the model to the

graduate school setting it is expected that peer interaction may serve as a means for modifying efficacy expectations. For example, through the process of favorable social comparison, students may persuade themselves that if others can do it, they too should be able to achieve at least some improvement in performance.

A third source of efficacy information comes about through exhortive means. Verbal persuasion can lead people to believe that they can cope successfully with that which is overwhelming. When considering the graduate school setting, verbal persuasion, especially if carried out by a credible member of the faculty, may serve as a means to increase positive expectancies or expectations of mastery in students. For example, an apprehensive student may favorably alter expectations for success after speaking with a respected faculty member who assures him/her of his/her ability to successfully complete program material.

The final source of efficacy information proposed by Bandura (1977) comes about through emotional arousal. Stressful situations generally elicit emotional arousal, that, depending on the circumstances might have informative value concerning personal competency. People act partly on their state of arousal in judging their anxiety and vulnerability to stress. Because high arousal usually deteriorates performance, students may be more likely to

expect success when they are not aversively aroused than if they are highly agitated.

In summarizing Bandura's self-efficacy model, it has been stated thus far that individuals derive efficacy information from four primary sources which in turn can be modified through several means. Bandura's (1977) research on the effectiveness of the four sources of efficacy information discussed, demonstrated that performance accomplishments produced higher, more generalized, and stronger efficacy expectations than did vicarious experiences. When applying these results to the graduate school experience, it is expected that those students who successfully complete the requisite material (i.e., assignments in on time, acceptable grades, etc.) will experience a sense of greater personal competence which in turn will serve to decrease emotional arousal and increase future performance. Although performance accomplishments have been shown to be superior to other sources of information in modifying efficacy expectations, it is likely that vicarious experiences and verbal persuasion (which may be derived through social interaction), may provide the individual with sufficient expectancies to mobilize resources that will lead to a decrease in anxiety level and an increase in performance accomplishments.

No matter what the source, Bandura (1977) states that the impact of information on efficacy expectations will

depend on how it is cognitively appraised. The corrective value of information derived from successful performance, vicarious, exhortive, and emotive sources can be attenuated in several ways (Bandura, 1977). Since information derived vicariously as well as through verbal persuasion are most relevant to this investigation, the remaining discussion will focus on how cognitive appraisal can affect the impact of such information on efficacy expectations.

Relative to vicarious experiences, achieving reductions in fear to threats presented symbolically is unlikely to enhance perceived self-efficacy to any great extent in people who believe that success in imagery does not portend accomplishments in reality. Information conveyed by easily modeled performances might likewise be minimized by anxious observers on the grounds that models possess special expertise enabling them to prevent injurious consequences that might otherwise befall the unskilled (Bandura, 1977). In discussing the effect of the latter on graduate students, it is possible that individuals observing an advanced student or instructor who has achieved academic excellence, may discount his/her own ability to achieve success based on his/her belief that he/she does not possess the same level of skill as the accomplished model. This process is opposite to that of favorable social comparison discussed previously, and would likely result in the individuals experiencing an increase in anxiety. Additionally, the

impact of verbal persuasion may be attenuated depending on the perceived credibility of the persuaders, their prestige, trustworthiness, expertise, and assuredness. The more believable the source of information, the more likely are efficacy expectations to change.

In summary, social support has been demonstrated to be an effective buffer of the life event/health relationship. Internal resources such as locus of control and personal competence have been examined as potential stress buffers. There is some evidence which indicates that internal resources may be more potent stress buffers than external resources such as social support. Using Bandura's model to explain how different sources of efficacy information are derived, it appears that social support may serve to meet at least two of these functions, namely through vicarious learning and verbal persuasion. The potential of social support as a stress-buffering agent may vary according to the way that it is cognitively appraised. Cognitive appraisal of social support is hypothesized to be particularly important when individuals are low on efficacy. This is postulated because those lacking the internal (efficacy) resources necessary to buffer the effects of stress may perceive social support as demeaning or signifying a loss of power. In addition, social support may serve, in part, to modify efficacy expectations, resulting in either an increase or decrease in self-efficacy depending

upon how it is cognitively appraised by the individual. The current study was proposed for the purpose of investigating the stress-buffering role of social support and self-efficacy among first-year graduate students. In addition, variations in self-efficacy as a joint function of social support and cognitive appraisal of (that) support was examined. Focusing specifically on anxiety levels, both the separate and joint effects of self-efficacy and social support as buffers of the stress-symptomatology relationship were considered. Several hypotheses regarding the outcome of this study were proposed: (1) It was hypothesized that both social support and self-efficacy would be negatively correlated with degree of anxiety above and beyond the effect that life events have on anxiety; (2) The correlation of self-efficacy with anxiety with all other independent variables held constant will be greater than the correlation of social support with anxiety with all remaining variables held constant; (3) Variations in social support as a buffering agent are a function of how it is cognitively appraised; and (4) Variations in self-efficacy are a joint function of social support and cognitive appraisal of that support.

METHOD

Subjects

The subjects for this investigation were 42 graduate students from the University of Central Florida. All of the subjects were enrolled in their first-year of graduate course work and were selected from various departments of study. Of the 42 participants, 36 were full-time (enrolled in nine or more semester hours), and six were considered part-time (enrolled in fewer than nine semester hours), students.

Materials

The subjects for this investigation were administered a battery including the following materials: a consent form, the College Student Life Event Schedule (CSLES), the Inventory of Socially Supportive Behaviors (ISSB), a self-efficacy measure, the Cognitive Appraisal Scale, and the State-Trait Anxiety Inventory (STAI), Form Y.

Literature Review of Test Materials

The College Student Life Event Schedule (CSLES) (Sandler & Lakey, 1982), was used as a measure of life stress for this investigation (see Appendix E). The current scale contains 112 items. The response format requires subjects to indicate if each event has occurred during the

past year and whether the event was positive, negative, or neutral for them.

Test-retest reliability (two-day time interval) of the College Student Life Event Schedule was assessed using a sample of 70 undergraduate students. Reliability coefficients for the total event score ($r(68) = .92$), positive event score ($r(68) = .92$), and negative event score ($r(68) = .89$), were judged to be acceptable (Sandler & Lakey, 1982).

In a second study using 95 college students as subjects, the negative event score derived from the scale was found to correlate positively ($r(93) = .62$) with the Life Experience Scale (Sarason, Johnson, & Siegel, 1978) and with measures of psychological disorder, $r(93) = .48$ with the Langner 22-item instrument (Langner, 1962); $r(93) = .55$ with the Beck Depression Scale (Beck, 1967); and $r(93) = .46$ with the Discomfort Scale of the PSI (Lanyon, 1970).

The Inventory of Socially Supportive Behaviors (ISSB), (see Appendix C), developed by Barrera, Sandler, and Ramsey (1981), was used to assess social support for this investigation. Barrera et al., (1981) conceptualize social support as that which includes tangible forms of assistance such as the provision of goods and services as well as intangible forms such as guidance and expressions of esteem. The items for the scale were generated according to this

somewhat broad definition. In addition, three principles were adhered to in constructing the scale: (1) behavioral specificity was emphasized in order to minimize the need for subjective inferences; (2) wording that would make an item only applicable to a specific population was avoided; and (3) explicit references to states of psychological adjustment were omitted.

The ISSB has been found to have test-retest (r(69) = .88) and internal consistency reliability (coefficient alpha = .92 and .94 at two administration times) with college students (Barrera et al., 1981). The instrument has also been found to correlate moderately and in the predicted direction (r(41) = .35) with the Cohesion Subscale of the Family Environment Scale (Moos, Insel, & Humphrey, 1974) and with the total size of perceived social support network (r(43) = .42), (Barrera et al., 1981).

The ISSB now contains 40 items and assesses both the type and amount of support that individuals receive. Respondents are instructed to rate the frequency with which each of the 40 items occurred during the preceding month using the following 5-pt. scale: 1 = not at all, 2 = once or twice, 3 = about once a week, 4 = several times a week, and 5 = about everyday.

In order to assess self-efficacy, a scale developed by Bandura (1977) was utilized (see Appendix B). Briefly, subjects were given a list of performance tasks and

instructed to designate those which they believe that they can accomplish. For each task so designated, subjects rated the strength of their belief using a certainty scale ranging in 10 unit intervals from 10 to 100. The low end of the scale, designated by a score of 10, was marked "little certainty" in place of Bandura's designation of "quite uncertain" to avoid subjects construing the rating to mean that they have "no" faith in their ability to accomplish the given performance item. This was the only modification to the scale.

Relative to the validity of this scale for assessing self-efficacy, Bandura (1977) has found, in studying subjects with snake phobias, that performance change corresponds closely to the magnitude of expectancy change. The greater the increments in perceived self-efficacy at the completion of treatment, the higher the level of approach behavior for efficacy expectations instated enactively ($\underline{r}$ = .83) and vicariously ($\underline{r}$ = .84).

The Cognitive Appraisal Scale was developed by the author to assess the individual's perception of available support (see Appendix D). The scale focuses primarily on assessing the individual's perception of support as either valuable and facilitative in increasing competency levels, neutral, or negative, resulting in a decrease in perceived competency and failure of self-reliance.

Test-retest reliability (two-day time interval) of the Cognitive Appraisal Scale was assessed using a sample of 13 undergraduate students enrolled in a Developmental Psychology class at the University of Central Florida. analysis of the preliminary reliability data yielded a test-retest Pearson correlation of r = .89.

The State-Trait Anxiety Inventory (STAI) developed by Spielberger in collaboration with Gorsuch, Lushene, Vagg, & Jacobs (1970) assessed information regarding subjects' levels of both state and trait anxiety (see Appendix F). The STAI contains 40 items and was standardized for use with several populations. The normative data for college students was collected after administering the scale to 855 students enrolled in introductory psychology courses at the University of South Florida.

The reliability coefficients for Form Y were based on two groups of high school students tested in classroom settings. The reliability coefficients for Form X were based on three different groups of undergraduate college student scores. The test-retest correlations for the T-Anxiety Scale (Form X) ranged from .73 to .86. The test-retest correlations for the T-Anxiety Scale (Form Y) ranged from .65 to .75. (Spielberger, 1983). For the S-Anxiety Scale, the stability coefficients for college and high school students (Form X and Y) ranged from .16 to .62. (Spielberger, 1983).

Procedure

As previously stated, the subjects were selected from several graduate level classes. In recruiting subjects, the investigator made a presentation to first-year graduate students in several departments of study at the University of Central Florida. Although the subjects were not told the exact nature of the study, they were not misled or deceived. Subjects were informed that the investigation was designed to explore the role of certain variables in helping students to adjust to graduate school. Subjects were given a consent form advising them of the general purpose of the study and the rights of participants in a research project in accordance with the ethical standards of APA (1981) (see Appendix A), along with a packet containing the other materials discussed. Those who chose to participate were asked to fill out five questionnaires, on their own time, which were returned to the examiner the following class period. Subjects were not told which questionnaires they were filling out, but were informed that they were designed to assess how internal and external resources impact on levels of stress. Each of the questionnaires was accompanied by written instructions.

Following the battery, the experimenter was available, for those students so interested, to provide a more complete description of the nature of the study and expected findings. Subjects were also informed that a complete copy

of this research project would be available in the University of Central Florida library, under the author's name, upon its completion. Finally, subjects were advised that it was not possible to provide individual feedback on test performance.

Data Analysis

A multiple regression/correlation (MRC) analysis was done to assess the relationships among the various variables employed. Specifically, in order to assess the level and/or strength of each variable, five psychological tests were administered.

The ISSB was scored by totaling the numbers corresponding to each of the 40 support categories. The scores obtained from this instrument range from a possible 40 to 200 reflecting no support and support received everday (from all possible sources listed), respectively.

The CSLES was scored by totaling the number of negative life events reported by the individual, with possible scores ranging from 0 to 112 (indicating a zero level of perceived negative events and the perception of extreme stress levels, respectively).

The Cognitive Appraisal Scale resulted in two sets of scores, one that reflected the total of positive evaluations of social support, and the other corresponding to the number of negative evaluations of social support reported. The possible scores for each category ranged form 0 to 12.

The STAI yielded two sets of scores corresponding to levels of state and trait anxiety, respectively. The scale was scored according to its standard instructions with possible scores ranging from 20 (low anxiety levels), to 80 (high anxiety levels), on each section.

Finally, the self-efficacy measure resulted in possible scores between 0 and 800, reflecting a zero level of perceived self-efficacy and one hundred percent perceived self-efficacy, respectively.

The degree to which the predictor variables, life events, social support, cognitive appraisal, and self-efficacy jointly or uniquely correlated with measures of anxiety was computed by regression analysis.

RESULTS

Means and standard deviations for all variables for the total sample, full-time students, and part-time students are found in Table 1. The bivariate correlations between the various unweighted variables are presnted in Table 2. A Pearson r correlation was used to assess the magnitude of the relationships between all of the variables employed. This analysis demonstrated strong, significant correlations between negative appraisal and state anxiety (r = .52, p < .001); trait anxiety and state anxiety (r = .77, p < .001); and positive appraisal and negative appraisal (r = -.52, p < .001).

Additional significant correlations were noted between the following variables: negative life events and state anxiety (r = .46, p < .01); negative life events and trait anxiety (r = .55, p < .01); and negative appraisal and trait anxiety (r = .43, p < .01).

Finally, significant inverse relationships were also observed between negative appraisal and self-efficacy (r = -.29, p < .05); self-efficacy and state anxiety (r = -.29, p < .05), and self-efficacy and trait anxiety (r = -.32, p < .05).

TABLE 1

MEANS AND STANDARD DEVIATIONS FOR ALL VARIABLES FOR THE TOTAL SAMPLE, FULL-TIME STUDENTS, AND PART-TIME STUDENTS

Variable	Tl. Population			Full-Time Students			Part-Time Students		
	M	SD	n	M	SD	n	M	SD	n
SE	654.57	125.41	42	673.39	105.16	36	541.67	183.57	6
SS	85.57	22.54	42	87.81	23.24	36	72.17	11.67	6
PA	7.74	2.24	42	7.75	2.45	36	7.67	2.58	6
NA	1.17	1.71	42	1.13	1.51	36	1.33	2.80	6
NLE	7.21	4.70	42	7.61	4.85	36	4.83	2.86	6
TA	37.38	8.26	42	37.75	8.39	36	35.17	7.78	6
SA	36.50	10.12	42	37.28	9.76	36	31.83	11.96	6

TABLE 2

BIVARIATE CORRELATIONS FOR ALL VARIABLES EMPLOYED

Correlations:	SE	SS	PA	NA	NLE	SA	TA
SE	1.00	-.06	.02	-.29	-.16	-.29	-.32
SS	-.06	1.00	.35	-.10	.10	.13	-.03
PA	.02	.35	1.00	-.52***	-.10	-.22	-.27
NA	-.29*	-.10	-.52***	1.00	.14	-.52***	.43**
NLE	-.16	.10	-.10	.14	1.00	.46**	.55***
SA	-.29*	.13	-.22	.52***	.46**	1.00	.77**
TA	-.32*	-.03	-.27	.43***	.55**	.77***	1.00

n = 42 * = .05 *** = .001

1-tailed significance ** = .01

The fundamental question addressed in this investigation concerned the buffering effects of social support and self-efficacy in the relationship between life stress and levels of state anxiety. In addition, the interrelationships among social support, cognitive appraisal (of support), and self-efficacy were also examined. A multiple regression strategy was employed to test the hypotheses. Specifically, a backward (POUT) analysis was utilized in which all six independent variables were entered simultaneously, with the variable making the smallest contribution being dropped first. Then the five remaining variables were regressed on Y, and again the one making the smallest contribution was dropped, and so on.

A highly significant multiple $\underline{R}$ of .82, $F(6,35) = 12.13$, $\underline{p} < .0000$, was obtained for the dependent variable, state anxiety (SA) using a combination of all six predictor independent variables (trait anxiety (TA), social support (SS), self-efficacy (SE), positive appraisal (PA), negative life events (NLE), and negative appraisal (NA).

The regression analysis resulted in a multiple $\underline{R}$ of .82, $F(3,38) = 25.87$, $\underline{p} < .0000$, after three of the original independent variables were dropped from the equation using the standard .10 "POUT" (probability criterion). The three remaining variables (TA, SS, and NA), were found to make statistically significant unique contributions in predicting state anxiety. The final equation of this analysis

demonstrated that the combination of TA, SS, and NA accounted for 67% of the variance in the dependent variable SA, with TA, NA, and SS making unique contributions of 37%, 5%, and 3%, respectively.

Of the remaining three independent variables, self-efficacy dropped out of the regression equation on the first step, followed by NLE, and finally PA. It was found that SE added almost nothing to the relationship with SA when the effects of the other variables were held constant, the semi-partial correlation (sr) = .01, $p > .10$. In the next step, negative life events was dropped from the analysis. NLE was found to make no significant contribution to the relationship with state anxiety ($sr = .04$, $p > .10$). Positive appraisal was then dropped from the analysis and the semi-partial correlation found was .04 ($p > .10$). Therefore, positive appraisal, too, added virtually nothing to the relationship with state anxiety.

A separate regression analysis was conducted with NA, SS, and PA serving as independent variables, and SE functioning as the dependent variable. Again, a backward analysis was utilized. Elimination of nonsignificant variables revealed that only NA made a significant unique contribution to the equation. These findings resulted in a multiple R of .29, $F(1,40) = 3.68$, $p < .06$, with NA accounting for 8% of the variance in SE.

DISCUSSION

The findings from this investigation failed to support the main hypothesis that both social support and self-efficacy would be negatively correlated with degree of anxiety above and beyond the effect that life events had on anxiety. Examination of the data revealed a significant positive relationship between negative life events and state anxiety ($r = .55$, $p < .01$). However, when a multiple regression analysis (backwards elimination) was conducted, it was found that negative life events contributed almost nothing to the relationship with state anxiety when the effects of the other independent variables were held constant (the semi-partial correlation (sr) = .04, $p > .10$). Therefore, the predicted interaction between negative life events, social support, self-efficacy, and state anxiety was not obtained and consequently the buffering hypothesis was unsubstantiated.

The fact that negative life events were associated with psychological symptomatology was consistent with other research (Cohen & Hoberman, 1983; Husaini et al., 1982). However, it is worth noting that other researchers obtaining a buffering effect utilized depression rather than (state) anxiety as a measure of psychological symptomatology (Cohen & Hoberman, 1983; Husaini et al., 1982). It appears then,

that other variables such as social support, negative appraisal, and trait anxiety are far more potent predictors of state anxiety than negative life events.

An alternative explanation for these findings may be related to the use of the CSLES as a measure of life stress for graduate students. Although this instrument was developed for use with college students, only a small percentage of the items dealt with academic achievement. Given the competitive spirit of the graduate school setting and the strong emphasis on academic excellence, it may have been adviseable to utilize an instrument with a similar focus. (The idea being that levels of situational anxiety would likely be more closely related to stress resulting from academic demands.)

Relative to the contribution of self-efficacy, it should be noted that regression analysis resulted in the elimination of this variable on the first step (i.e., self-efficacy also contributed almost nothing to the relationship with state anxiety when the effects of the other independent variables were held constant, the semi-partial correlation (sr) = .01, $p > .10$). This finding was contrary to the prediction that self-efficacy would be more highly correlated with anxiety levels than social support. However, when main effects were examined, a significant negative relationship did exist between self-efficacy and state anxiety ($r = -.29$, $p < .05$). It is

interesting that this relationship was consistent with Bandura et al.'s, (1982) findings, i.e., those reporting higher efficacy levels tend to report less anxiety symptoms in the face of a perceived threatening event. Yet, findings from this investigation revealed that when other variables such as trait anxiety, social support, and negative appraisal were taken into consideration, self-efficacy held virtually no independent relationship with state anxiety.

A possible interpretation for these findings may be that self-efficacy theory simply does not generalize to the population under consideration, namely, first-year graduate students. However, in reviewing Bandura's research it becomes apparent that the majority of his work has been done with individuals reporting a specific identified fear or phobia. When considering the current investigation, no specific fear was identified. The scale used to assess self-efficacy was a global measure that called for students to rate the degree of confidence in their ability to perform certain academic tasks. It is entirely possible that the scale was not appropriate to all the subjects under investigation as the sample was drawn from various departments of study. If this were indeed the case, then the scale would not have identified performance items that posed a viable threat to the individual (i.e., it would have been inconsequential to note that the individual reported 100% certainty in his/her ability to perform a given task when

the student would not be required to execute the task during the course of his/her academic career). Under these circumstances it would have been far more appropriate to construct different scales for assessing an individual's percept of self-efficacy according to the more specific demands of his/her program.

Multiple regression analysis resulted in a positive significant relationship between social support and state anxiety when all other independent variables were held constant. This relationship was not in the predicted direction. These findings indicated that those individual's reporting a greater frequency of support, also experienced higher levels of situational anxiety. A similar relationship was reported by Cohen and Hoberman (1983). Using the ISSB as a measure of social support, their results demonstrated that persons experiencing greater numbers of socially supportive behaviors showed greater levels of both depressive and physical symptoms. This finding was explained by the authors, by their assertion that the ISSB measures actual support received in the past, which they suggest also reflects one's recent need for support as well as its availability. Therefore, they state that the ISSB may not provide an appropriate measure of support. This explanation seems to fit well with the findings from the current investigation. It may have been that those individuals reporting higher levels of support not only

perceived a need for it, but also actively sought it out. In further discussing the results, however, it is necessary to examine the role of cognitive appraisal.

It was originally hypothesized that cognitive appraisal of support would effect its potential as a stress-buffering agent (i.e., those perceiving support as positive would report fewer anxiety symptoms as a result of life stress, while those appraising support negatively would report the opposite). Although the buffering hypothesis was unsubstantiated, it should be noted that negative appraisal was significantly correlated, in the predicted direction, with state anxiety when all other independent variables were held constant. This finding adds another dimension to the interpretation of these results. It was demonstrated that not only do those individuals reporting a higher frequency of social support also indicate higher levels of state anxiety, in addition, they tend to perceive support as negative. These findings were consistent with the original argument that assessing levels of social support without an indication of how the individual perceived it, would be incomplete. Thus, social support is not facilitative in coping with anxiety when it is appraised negatively. In further discussing the implications of these findings, the role of self-efficacy will be examined.

Additional regression analysis with self-efficacy functioning as the dependent variable and negative

appraisal, social support, and positive appraisal functioning as independent variables, demonstrated that negative appraisal was significantly correlated, in the predicted direction, with self-efficacy. That is, those individuals who appraised support as negative also reported lower efficacy levels. These results partially supported the hypothesis that variations in self-efficacy are a joint function of social support and cognitive appraisal of (that) support.

In that negative appraisal played a significant role in determining levels of both state anxiety and self-efficacy, it seems reasonable to assert that the way that information is cognitively mediated may be an important factor in the determination of an individual's level of adaptation. It appeared that those individual's who were characteristically more anxious (i.e., trait anxiety) sought out external resources such as social support as a means for coping. However, the anxious student, in interacting with others, actually discounted important information that may have better facilitated his/her adjustment. For example, the items on the cognitive appraisal scale focused on how the person perceived support from others. The choices in the negative category reflected an appraisal of support as that which resulted in the experience of lowered esteem or perceived competency levels. It seems likely that the students reporting the most anxiety, distorted feedback from

others in a negative fashion which may have resulted in further feelings of incompetency. This explanation was partially supported by the fact that individuals appraising support negatively, also reported lower efficacy levels. Although unsubstantiated, it is also possible that the highly anxious students perceived their arousal as stemming from personal inadequacies. When confronted with feedback, they tended to accept only that which was consistent with the image that they held of themselves and to discount or distort that information that was not. This process may have resulted in further escalating situational anxiety levels.

In concluding, it appears that those students who tend to be the most anxious are relying on social support as a means of adaptation, yet, are not able to effectively utilize this resource. It is possible that the students who do not experience similar levels of anxiety are more autonomous, generally less affiliative, and more self-assured. Although social support may not provide more confident individuals with greater efficacy expectations, it may be detrimental to those perceiving themselves as less competent, as it serves to further decrease personal expectancies. Social support, to a more confident individual, may provide information necessary to deal with situational stress. However, those who tend to distort this information will experience resultant increases in anxiety

and a lowered perception of personal competency. In helping such individuals to adjust to the demands of graduate school, it may be necessary to teach them to more effectively utilize their resources. However, it seems unlikely that any significant changes would occur, unless these students were to learn to process positive feedback in a manner that would allow for a change in self-perception.

In reviewing the findings from this investigation, some methodological problems have been discussed. It is recommended, that those interested in pursuing research in this area, take the following suggestions into consideration:

It may be more effective to assess levels of stress with an instrument that focuses on areas of academic achievement when using a population of graduate students. In addition, knowledge of specific academic requirements would facilitate the construction of a self-efficacy measure appropriate to the subjects under investigation. Finally, it may be helpful to add a measure of "perceived availability of support" in addition to a measure of "past frequency of support" in order to more fully assess the impact of social support on psychological symptomatology.

APPENDIX A

CONSENT FOR PARTICIPATION IN PSYCHOLOGICAL RESEARCH

You are being asked to participate in a research project conducted by a clinical psychology graduate student, Mary Cecchini, at the University of Central Florida, under the supervision of Dr. J. M. McGuire. This investigation is designed to explore the role of certain variables in helping students to adjust to graduate school.

All who participate will be asked to complete five questionnaires which will require approximately 35 minutes of your time. The questionnaires are designed to assess how internal and external resources impact on levels of stress.

No individual will be personally identified in this project. This consent form will be maintained separately from your questionnaires. All information will be confidential and only the experimenter and three faculty members at the University of Central Florida will have access to the data.

Following your participation the experiementer will provide a more complete description of the expected findings and respond to any questions you may have. In addition, a complete copy of this research project will be available for your inspection at the University of Central Florida under the author's name.

You will be able to terminate your participation in this study at any time, by saying so, without negative consequences.

_____ _____

Witness Signature Date

APPENDIX B

SELF-EFFICACY SCALE

Instructions: Designate, by marking column A, to the right of each item, those items which you believe you can accomplish at this time. For those so designated, rate your degree of confidence in your ability to perform each item by recording a number from 10 to 100 in column B using the scale given below:

10	20	30	40	50	60	70	80	90	100
Little Certainty				Moderate Certainty				Complete Certainity	

		A	B
1.	Satisfactory completion of requisite course work	___	___
2.	Earn what you consider to be an acceptable overall grade point average	___	___
3.	Obtain a passing grade on comprehensive exams	___	___
4.	Formulate an acceptable thesis or research project	___	___
5.	Completetion of thesis or research project within university deadlines	___	___
6.	Demonstrate skills necessary for satisfactory completion of practicum or intership	___	___
7.	Prepare and deliver oral presentations on material relative to your area of study	___	___
8.	Demonstrate skills necessary to obtain what you consider to be acceptable grades on written assignments (i.e., term papers, reports, etc.)	___	___

APPENDIX C

INVENTORY OF SOCIALLY SUPPORTIVE BEHAVIORS (ISSB)

Instructions: A number of statements describing various types of assistance received from others are given below. Read each item carefully and indicate the frequency with which each has occurred during the preceding month using the following scale: 1=not at all, 2=once or twice, 3=about once a week, 4=several times a week, or 5=about everyday.

Item	Frequency
Looked after a family member when you were away	_____
Was right there with you (physically) in a stressful situation	_____
Provided you with a place where you could get away for awhile	_____
Watched after your possessions while you were away (plants, home, etc.)	_____
Told you what he/she did in a situation that was similar to yours	_____
Did some activity together to help you get your mind off things	_____
Talked with you about some interst of yours	_____
Let you know that you did something well	_____
Went with you to someone who could take action	_____
Told you that you are OK just the way you are	_____
Told you that he/she would keep the things you talked about private-just between the two of you	_____

Item	Frequency
Assisted you in setting a goal for yourself	_____
Made it clear what was expected of you	_____
Expressed esteem or respect for a competency or personal quality of yours	_____
Gave you some information on how to do something	_____
Suggested some action that you should take	_____
Gave you over $25	_____
Comforted you by showing you some physical affection	_____
Gave you some information to help you understand a situation you were in	_____
Provided you with some transportation	_____
Checked back with you to see if you had followed the advise you were given	_____
Gave you under $25	_____
Helped you understand why you didn't do something well	_____
Listened to you talk about your private feelings	_____
Loaned or gave you something (a physical object other than money) that you needed	_____
Agreed that what you wanted to do was right	_____
Said things that made your situation clearer or easier to understand	_____
Told you how he/she felt in a situation that was similar to yours	_____
Let you know that he/she will always be around if you need assistance	_____
Expressed interest and concern in your well-being	_____

Item	Frequency
Told you that he/she feels very close to you	_____
Told you who you should see for assistance	_____
Told you what to expect in a situation that was about to happen	_____
Loaned you over $25	_____
Taught you how to do something	_____
Gave you some feedback on how you were doing without saying it was bad or good	_____
Joked and kidded to try and cheer you up	_____
Provided you with a place to stay	_____
Pitched in to help you do something that needed to get done	_____
Loaned you under $25	_____

APPENDIX D

COGNITIVE APPRAISAL SCALE

Instructions: Please read the following questions and responses carefully, indicating which response is most appropriate for you by circling the designated letter. If after reading the question and response choices you find that a given item does not apply to you, skip it and continue with the following item.

1. After having discussed a personal problem with others, I generally feel:

   a) Encouraged and increased confidence in my ability to cope

   b) Discussing it with others is neither positive nor negative

   c) Embarrassed at having let others know that I have a problem

2. In observing other successful members in my field and/or department of study, I usually feel that:

   a) If they can do it, so can I

   b) It doesn't have much impact on my belief in my own performance

   c) I may never achieve as well as they because they are much more skilled than I

3. When troubled with an academic problem I usually:

   a) Find it helpful and rewarding to discuss it with a fellow member of my department of study (i.e. students or faculty member)

   b) Find that discussing it with other members of my department is neither positive nor negative

   c) Find it embarrassing to let others know that I have a problem

4. After studying with a group of my peers I:

   a) Feel that I was far more prepared and made several valuable contributions during the session

   b) Feel that I was equally prepared and contributed as much as others to the session

   c) Feel that others were much better prepared than I and contributed more to sessions

5. When someone lets me know that I am doing something well, I generally:

   a) Feel an increase in personal competence

   b) Feel neither an increase nor decrease in personal competence

   c) Feel that they were just being nice

6. When someone expresses esteem or respect for a personal quality of mine, I usually feel:

   a) Increased confidence in my ability to cope

   b) Neither positive nor negative

   c) Uncomfortable and/or embarrassed

7. I feel that suggestions/advice from others generally:

   a) Is helpful/facilitative

   b) Neither facilitates nor hinders my ability to cope with a problem

   c) Results in my feeling less competent for having to rely on others instructions

8. When others loan me money, I generally feel:

   a) Supported

   b) Neither positive nor negative

   c) Wonder what they are thinking of me for needing a loan

9. When someone comforts me by showing some physical affection, I usually feel:

   a) A sense of increased security and confidence

   b) Neither positive nor negative

   c) Embarrassed or humiliated for relying on others support

10. When others provide me with some helpful information, I generally feel:

   a) Encouraged and/or relieved at having gained some insight into my problem

   b) Neither positive nor negative

   c) Bad for not knowing the information myself and/or having to rely on others advice to solve my problems

11. If someone checks back with me to see if I had followed the advise they gave me, I would feel:

   a) Valued in knowing that person really cared

   b) Neither positive nor negative

   c) Childlike, at them checking up on me

12. When someone helps me to understand why I didn't do something well, I generally feel:

   a) More competent to handle a similar problem in the future

   b) Neither positive nor negative

   c) Stupid or embarrassed at having others know that I screwed up

APPENDIX E

COLLEGE STUDENT LIFE EVENTS SCHEDULE

Instructions: The following questionnaire contains a list of events which may or may not have occurred in your life during the past 12 months. For each item you should do the following: Think about whether the event occurred to you. If it did not occur to you during the past 12 months, skip it and go on to the next item. If the event did occur, indicate whether its effect on you was positive, negative, or neutral by circling the appropriate letter.

		Positive	Negative	Neutral
1.	Terminated intimate relationship	a	b	c
2.	Marriage	a	b	c
3.	Became a parent	a	b	c
4.	Became engaged	a	b	c
5.	Negative personal encounter with professor	a	b	c
6.	Marital separation or divorce	a	b	c
7.	Increased separation from children	a	b	c
8.	Re-established old personal friendship	a	b	c
9.	Developed a good personal relationship with a professor	a	b	c
10.	Beginning or increased sexual activity	a	b	c
11.	Had a disagreement with friend (small or large disagreement)	a	b	c

		Positive	Negative	Neutral
12.	Personal rejection by close friend or lover	a	b	c
13.	Started a love relationship	a	b	c
14.	Increased amount of dating	a	b	c
15.	Separation from parents or siblings	a	b	c
16.	Separation from close friend due to moving	a	b	c
17.	Chose to terminate relationship with close friend	a	b	c
18.	Relationship with boyfriend or girlfriend became worse	a	b	c
19.	Decreased number of friends	a	b	c
20.	Significantly improved your relationship with boyfriend/ girlfriend or close friend	a	b	c
21.	Learning that a close friend/ relative is very different than you thought (e.g. sexual behavior, criminal activities, etc.)	a	b	c
22.	Relationship with relative (parents, siblings, etc.) became worse	a	b	c
23.	Relationship with relative (parents, siblings, etc.) became better	a	b	c
24.	Began living with lover	a	b	c
25.	Decreased amount of dating	a	b	c
26.	Relationship with spouse became worse or much worse	a	b	c

		Positive	Negative	Neutral
27.	Relationship with spouse improved	a	b	c
28.	Decreased sexual activity	a	b	c
29.	Difficulty with sexual performance	a	b	c
30.	Developed relationships with people who have new or interesting ideas or lifestyles	a	b	c
31.	Became an aunt or uncle	a	b	c
32.	Marriage of close friend or relative	a	b	c
33.	Death of a friend	a	b	c
34.	Friend or relative encountered serious trouble or failure experience	a	b	c
35.	Parents' financial status became better or much better	a	b	c
36.	Received a visit (or visited) family	a	b	c
37.	Worsening of parents' financial status	a	b	c
38.	Friend or relative had important positive experience	a	b	c
39.	Health of a close friend/ relative became much worse	a	b	c
40.	Death of a close relative (parent or sibling)	a	b	c
41.	Parents separated or divorced	a	b	c
42.	Remarriage of parent	a	b	c

		Positive	Negative	Neutral
43.	Serious conflict between members of your family	a	b	c
44.	Significantly increased your level of debt	a	b	c
45.	Fired or lost job	a	b	c
46.	Quit job	a	b	c
47.	Received positive recognition at job	a	b	c
48.	Major change in work or school hours	a	b	c
49.	Significantly increased economic difficulties	a	b	c
50.	Acquired a car	a	b	c
51.	Won a large amount of money (over $10,000) in a lottery or sweepstakes	a	b	c
52.	Significantly improved your financial status	a	b	c
53.	Began a new job (part or full time)	a	b	c
54.	Increased difficulty with job	a	b	c
55.	Discharged from the military	a	b	c
56.	Improved mastery of academic material	a	b	c
57.	Significantly improved your course grades	a	b	c
58.	Transferred to a new school	a	b	c
59.	Began college for first time	a	b	c

		Positive	Negative	Neutral
60.	Encountered increased difficulty with school regulations or facilities	a	b	c
61.	Withdrawal from a college or university	a	b	c
62.	Completed an assignment for school	a	b	c
63.	Returned to school after a prolonged absence	a	b	c
64.	Graduation from high school or junior college	a	b	c
65.	Applied to graduate or professional school	a	b	c
66.	Decided on a major or career	a	b	c
67.	Increased demands from academic coursework	a	b	c
68.	Increased performance problems with academics (i.e., course work, grades, GRE's, etc.)			
69.	Accepted into graduate or professional school	a	b	c
70.	Moved out of parent's home	a	b	c
71.	Moved back into parent's home after living away	a	b	c
72.	Change of residence	a	b	c
73.	Serious conflict with roommate	a	b	c
74.	Improved living conditions (e.g., housing, roommate, etc.)	a	b	c

		Positive	Negative	Neutral
75.	Difficulty with landlord/ landlady	a	b	c
76.	Moved to a new city	a	b	c
77.	Improved physical appearance	a	b	c
78.	Physical appearance became worse or much worse	a	b	c
79.	Physical health became worse or much worse	a	b	c
80.	Began or increased use of illicit drugs	a	b	c
81.	Improved your physical health	a	b	c
82.	Hospitalization of self	a	b	c
83.	Improved your personal health/habits	a	b	c
84.	Worsening of personal health/habits	a	b	c
85.	Did not experience fatigue	a	b	c
86.	Decreased use of illicit drugs	a	b	c
87.	Female: Possibility of an unwanted pregnancy Male: Possibility of girlfriend/wife's unwanted pregnancy	a	b	c
88.	Female: Had an abortion Male: Girlfriend/wife had an abortion	a	b	c
89.	Involvement in accident	a	b	c
90.	Began counseling or psychotherapy	a	b	c

	Positive	Negative	Neutral
91. Began volunteer work	a	b	c
92. Received recognition or award for achievement	a	b	c
93. Victim of crime	a	b	c
94. Problem with law (arrested, detained, etc.)	a	b	c
95. Acquired a pet	a	b	c
96. Major change in or renewed dedication to philosophy of life	a	b	c
97. Selected for leadership position in an organization	a	b	c
98. Loss of a pet through death or runaway	a	b	c
99. Traveled to a new and interesting place	a	b	c
100. Increase in amount of leisure time	a	b	c
101. Decreased involvement with hobby or task	a	b	c
102. Joined a social organization	a	b	c
103. Won an award at an international athletic competition	a	b	c
104. Increased exposure to cultural or entertainment experiences	a	b	c
105. Accomplished a goal in a hobby or recreational activity	a	b	c
106. Major increase in religious commitment	a	b	c

	Positive	Negative	Neutral
107. New or increased involvement in hobby or recreational activity	a	b	c
108. Not accepted into a social organization you desired	a	b	c
109. Organization you belong to failed to accomplish an important goal	a	b	c
110. Organization you belong to accomplished an important goal	a	b	c
111. Increased use of alcohol	a	b	c
112. Rejected by all graduate or professional schools you desired to attend	a	b	c

APPENDIX F

STAI FORM Y-1

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you feel right now, that is, at this moment. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

		Not At All	Some-what	Moder-ately So	Very Much So
1.	I feel calm	1	2	3	4
2.	I feel secure	1	2	3	4
3.	I am tense	1	2	3	4
4.	I feel strained	1	2	3	4
5.	I feel at ease	1	2	3	4
6.	I feel upset	1	2	3	4
7.	I am presently worrying over possible misfortunes	1	2	3	4
8.	I feel satisfied	1	2	3	4
9.	I feel frightened	1	2	3	4
10.	I feel comfortable	1	2	3	4
11.	I feel self-confident	1	2	3	4
12.	I feel nervous	1	2	3	4
13.	I am jittery	1	2	3	4
14.	I feel indecisive	1	2	3	4
15.	I am relaxed	1	2	3	4

		Not At All	Some-what	Moder-ately So	Very Much So
16.	I feel content	1	2	3	4
17.	I am worried	1	2	3	4
18.	I feel confused	1	2	3	4
19.	I feel steady	1	2	3	4
20.	I feel pleasant	1	2	3	4

Directions: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle to the right of the statement to indicate how you generally feel. There are no right or wrong answers. Do not spend too much time on any one statement, but give the answer which seems to describe how you generally geel.

		Almost Never	Some-times	Often	Almost Always
1.	I feel pleasant	1	2	3	4
2.	I feel nervous and restless	1	2	3	4
3.	I feel satisfied with myself	1	2	3	4
4.	I wish I could be as happy as others seem to be .	1	2	3	4
5.	I feel like a failure	1	2	3	4
6.	I am "calm, cool, and collected"	1	2	3	4
7.	I feel rested	1	2	3	4
8.	I feel that difficulties are piling up so that I cannot overcome them	1	2	3	4
9.	I worry too much over something that really doesn't matter	1	2	3	4
10.	I am happy	1	2	3	4
11.	I have disturbing thoughts	1	2	3	4
12.	I lack self-confidence ...	1	2	3	4
13.	I feel secure	1	2	3	4
14.	I make decisions easily ..	1	2	3	4
15.	I feel inadequate	1	2	3	4

	Almost Never	Some-times	Often	Almost Always
16. I am content	1	2	3	4
17. Some unimportant thought runs through my mind and bothers me	1	2	3	4
18. I am a steady person	1	2	3	4
19. I take disappointments so keenly that I can't put them out of my mind	1	2	3	4
20. I get in a state of tension or turmoil as I think over my recent concerns and interests	1	2	3	4

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